

Long COVID symptoms in children rarely persist beyond 12 weeks

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Long COVID symptoms rarely persisted beyond 12 weeks in children and adolescents unlike adults. But more studies were required to investigate the risk and impact of long COVID in young people to help guide vaccine policy decisions in Australia, according to a review led by the Murdoch Children's Research Institute (MCRI).

The review, published in the *Pediatric Infectious Disease Journal*, found existing studies on long COVID in children and adolescents have major limitations and some do not show a difference in symptoms between those who have been infected by SARS-CoV-2 and those who haven't.

It comes as a new [MCRI COVID-19 research brief](#) also states after 10 months in circulation the Delta strain had not caused more serious disease in children than previous variants and most cases remained asymptomatic or mild.

However, it found children and adolescents with pre-existing health conditions including obesity, [chronic kidney disease](#), cardiovascular disease and immune disorders have a 25-fold greater

risk of severe COVID-19. A recent [systematic review](#) reported severe COVID-19 occurred in 5.1 per cent of children and adolescents with pre-existing conditions and in 0.2 per cent without.

MCRI Professor Nigel Curtis said while children with SARS-CoV-2 infection were usually asymptomatic or have mild disease with low rates of hospitalisation, the risk and features of long COVID were poorly understood.

"Current studies lack a clear case definition and age-related data, have variable follow-up times, and rely on self- or parent-reported symptoms without lab confirmation," he said. "Another significant problem is that many studies have low response rates meaning they might overestimate the risk of long COVID."

MCRI and University of Fribourg Dr. Petra Zimmermann said that long COVID-19 symptoms were difficult to distinguish from those attributable to the indirect effects of the pandemic, such as school closures, not seeing friends or being unable to do sports and hobbies.

"This highlights why it's critical that future studies involve more rigorous control groups, including children with other infections and those admitted to hospital or intensive care for other reasons," she said.

The MCRI-led review analysed 14 international studies involving 19,426 children and adolescents that reported persistent symptoms following COVID-19. The most common symptoms reported four to 12 weeks after acute infection were headache, fatigue, sleep disturbance, concentration difficulties and abdominal pain.

Professor Curtis, who is also a Professor of Paediatric Infectious Disease at the University of Melbourne and Head of Infectious Diseases at The Royal Children's Hospital, said it was reassuring

that there was little evidence that symptoms persisted longer than 12 weeks suggesting long COVID might be less of a concern in children and adolescents than in adults.

But he said further studies were urgently needed to inform policy decisions on COVID vaccines for children and adolescents.

"The low risk posed by acute disease means that one of the key benefits of COVID vaccination of children and adolescents might be to protect them from long COVID," he said. "An accurate determination of the risk of long COVID in this age group is therefore crucial in the debate about the risks and benefits of vaccination."

The MCRI COVID-19 brief also confirmed research gaps around the role of the Delta variant in COVID-19 disease in children and adolescents.

MCRI COVID-19 Governance Group Co-Chair Professor Andrew Steer said because the Delta variant was more transmissible, it made controlling community outbreaks challenging without mitigation risk strategies in place.

"More data is needed to describe the burden of COVID-19 in children and adolescents following the emergence of the highly transmissible Delta variant and because adults have been prioritised for vaccines," he said.

"As restrictions ease and other respiratory viruses increase in circulation, we also need to understand whether co-infection with other respiratory viruses, such as RSV or influenza, increases disease severity in young people."

But Professor Steer said parents should be reassured that illness caused by the Delta variant remained asymptomatic or mild in the vast majority of children and adolescents and hospitalisations were still uncommon.

To date in Australia, there have been no deaths from COVID-19 in children aged less than 10 years, and one death in an [adolescent](#). As of September 5, 22 per cent of all COVID-19 cases

were among those aged less than 19 years old.

The COVID-19 brief stated that although multisystem inflammatory syndrome in children (MIS-C) had caused child deaths overseas, these were mainly early in the pandemic and earlier diagnosis, more appropriate treatments had improved outcomes. In 2021, almost all children with MIS-C recovered fully. In Australia, there have been four confirmed cases and no deaths due to MIS-C.

More information: Petra Zimmermann, Laure F. Pittet and Nigel Curtis. 'How Common Is Long COVID in Children and Adolescents,' *Pediatric Infectious Disease Journal* (2021). [DOI: 10.1097/INF.0000000000003328](https://doi.org/10.1097/INF.0000000000003328)

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